

WHAT IS CLAIMED IS:

1 1. A method for fault tolerance, load balance and failover of CORBA object servers,
2 comprising the steps of:

3 invoking a cluster contained in a context;

4 performing a load balance to select an object server located in the
5 invoked cluster;

6 appending a cluster component to the invoked cluster to provide failover
7 upon failure of the object server;

8 forwarding a selected object reference to a client upon completion of the
9 load balance; and

10 communicating with a server associated with the selected object
11 reference which was forwarded to the client.

1 2. The method of claim 1, said invoking step comprising the step of:

2 binding to the server using an IP Address and port number
3 contained in the specific object reference.

1 3. The method of claim 2, further comprising the steps of:

2 indicating to a user whether bind interceptors are in use;

3 providing the user with a class having relevant methods if bind
4 interceptors are in use; and
5 specifying the class such that the class contains the most relevant
6 methods, said specification being performed at a discretion of the user.

1 4. The method of claim 3, further comprising the steps of:

2 checking the bind interceptors if the object server fails; and
3 selecting an alternative server if a bind interceptor contains a
4 predetermined method; said selection being performed by the user upon entry
5 of the predetermined method by the user.

1 5. The method of claim 4, further comprising the steps of:

2 intercepting a cluster component of the object server which failed based
3 on the bind interceptor;
4 invoking a load balance algorithm of the cluster via the bind interceptor
5 to select and return a new object reference located in the cluster to the client;
6 establishing communications with the client and a server of the new
7 object reference; and
8 marking the failed object server to indicated failure thereof.

1 6. The method of claim 5, further comprising the step of:

2 removing the marked failed object server from the cluster.

1 7. The method of claim 4, wherein the predetermined method is Bind_Failed.

1 8. The method of claim 3, wherein the most relevant methods are one of Bind,
2 Bind_Succeeded and Bind_Failed.

1 9. The method of claim 1, further comprising the step of:

2 specifying a load balance algorithm upon creation of a naming service
3 cluster to perform name service load balancing of object references contained
4 within the clusters.

1 10. The method of claim 1, wherein said load balancing is performed based on a
2 predetermined method.

1 11. The method of claim 4, wherein the predetermined method is a Round robin load
2 balancing algorithm.

3 12. The method of claim 1, wherein said load balancing is performed based on a
4 predetermined method.

1 13. The method of claim 12, wherein the predetermined method is a Round robin load
2 balancing algorithm.

1 14. The method of claim 1, wherein each cluster contains an object binding table which
2 contains object references;
3 wherein each object server reference represents a single server.

1 15. A method for fault tolerance, load balance and failover of CORBA object servers,
2 comprising the steps of:

3 setting a flag in a file to activate implicit clustering;
4 invoking a cluster contained in a context having clusters;
5 performing a load balance to select an object server located in the
6 clusters;
7 forwarding a selected object reference to a client upon completion of the
8 load balance; and
9 communicating with the server associated with the selected object
10 reference which was forwarded to the client.

11 16. The method of claim 15, wherein the file is a configuration file.

1 17. The method of claim 15, said invoking step comprising:
2 binding to the server using an IP Address and port number
3 contained in the specific object reference.

1 18. The method of claim 15, wherein said load balancing is performed based on a
2 predetermined method.

1 19. The method of claim 18, wherein the predetermined method is a Smart Round
2 Robin load balancing algorithm.

1 20. The method of claim 15, wherein object reference binding having identical names
2 are clustered together in common clusters such that a common group of object reference binders
3 servers is created.

1 21. The method of claim 20, further comprising the step of:
2 specifying a load balance algorithm to perform load balancing of object
3 references contained within the common group of group of object reference
4 binders.

- 1 22. The method of claim 21, wherein initially the load balance algorithm is Smart
- 2 Round Robin.